

Appln. No.: 10/780,153
Amendment Dated July 10, 2006
Reply to Office Action of April 10, 2006

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Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) An electromechanical valve actuator for internal combustion engines, equipped with a polarized electromagnet exerting magnetic action on a magnetic plate subjected to a mechanical restoring action, which magnetic action tends to compensate the mechanical action and maintains the plate in a distant position from the electromagnet, ~~characterized in that the actuator comprises means to ensure that the plate operates in a ballistic mode in which displacement of the magnetic plate is controlled only by activation of a single electromagnet is controlled in displacement solely by this electromagnet~~ and the mechanical restoring action, such that the plate performs shuttle movements starting from the distant position.
2. (Previously Presented) Actuator in accordance with claim 1, further comprising means to ensure that the distant position of the plate corresponds to an open position of the valve.
3. (Previously Presented) Actuator in accordance with claim 1 or 2, further comprising means to move the plate away from the electromagnet by annulling or inverting a supply current of the electromagnet.
4. (Previously Presented) Actuator in accordance with claim 1 or 2, wherein the plate is maintained at such a distance that a rod of the valve is distant from a rod of the plate controlling the valve.
5. (Previously Presented) Actuator in accordance with claim 1 or 2, wherein the electromagnet has a shape of an E provided with a central branch and two end branches, the plate has across section which is one of smaller than a cross section of the end branches and smaller than half a cross section of the central branch.
6. (Previously Presented) Actuator in accordance with claim 1 or 2, wherein the electromagnet has an E-shape and, at least one magnet is fixed at the end of at least one of the branches of the E-shaped electromagnet opposite the plate.

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7. (Previously Presented) Actuator in accordance with claim 1 or 2, wherein the mechanical restoring action is generated by at least one spring.

8. (Previously Presented) Internal combustion engine equipped with an electromechanical valve actuator, comprising a polarized electromagnet and a mobile magnetic plate subjected to a mechanical restoring action, wherein the actuator is according to claim 1 or 2.